

Trenching for direct buried cable will be incidental to highway lighting system and shall include excavating, furnishing and placing screened sand and backfilling.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
634.160 Highway Lighting	Lump Sum
634.164 Luminares for High Mast Lighting	Each
634.2041 Luminares	Each
634.206 Light Standard for Post Top Luminaire	Each
634.207 High Mast Light Standard	Each
634.209 Wood Ornamental Light Standard	Each
634.210 Conventional Light Standard	Each

SECTION 635 - PREFABRICATED BIN TYPE RETAINING WALL

635.01 Description This work shall consist of the construction of bin type retaining wall in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans or established.

635.02 Materials Materials shall meet the requirements specified in the following Section of Division 700 - Materials:

Gravel Borrow	703.20
Precast Concrete Units	712.06
Metal Bin Type Retaining Wall	713.07

Bedding and backfill material shall be gravel borrow.

635.03 Shop Drawings The Contractor shall prepare shop detail erection and other working plans and shall submit two copies for approval. Approval of the plans shall be obtained before fabrication of the work is commenced. Changes in the approved plans shall be subjected to further approval and the Resident shall be supplied with a record of such changes. The drawings shall use the same units found in the project plans.

The Contractor will be responsible for the correctness of their plans, even though plans have been approved.

635.04 Excavation and Foundation Excavation for erection of the retaining wall shall be in accordance with Section 203 - Excavation and Embankment, to a width sufficient to allow the proper erection of the wall.

The foundation under the entire area of the wall shall be firm. The bedding and backfill material shall be thoroughly compacted. If ledge rock is encountered, a gravel foundation of at least 300 mm [12 in] in thickness shall be provided.

635.05 Erection The retaining wall members shall be erected in accordance with the manufacturer's instructions and as shown on the plans. Members shall be handled carefully and all members that are damaged shall be replaced at the Contractor's expense. All bolts for metal walls shall be placed so that heads will be exposed and the nuts tightened on the inside.

635.06 Backfill The backfilling of the interior of the wall and behind the wall shall progress simultaneously. The material shall be placed in layers not over 200 mm [8 in] in depth, loose measure and thoroughly compacted by mechanical or vibratory compactors. Puddling for compaction will not be allowed.

635.07 Method of Measurement Bin type retaining wall will be measured by the square meter [square foot] of front surface not to exceed the dimensions shown on the plans or authorized. The area of each panel shall be determined by multiplying the width of each panel, center-to-center distance of the columns, by the total height of the panel.

635.08 Basis of Payment The accepted quantity of bin type retaining wall will be paid for at the contract unit price per square meter [square foot] complete in place.

Excavating beyond the face of the wall, including excavating for bedding and backfill, and furnishing and placing bedding, and backfill material itself will be considered incidental to the contract items and no separate payment will be made.

Payment will be made under:

Pay Item

Pay Unit

635.10	Concrete Bin Type Retaining Wall, Closed Face	square meter [Square Foot]
635.11	Concrete Bin Type Retaining Wall, Open Face	square meter [Square Foot]
635.12	Galvanized Metal Bin Type Retaining Wall	square meter [Square Foot]
635.13	Galvanized Metal Bin Type Retaining Wall with Fiber Coating	square meter [Square Foot]

SECTION 636 - MECHANICALLY STABILIZED EARTH RETAINING WALL

636.01 Description The work under this item shall consist of design, fabrication, furnishing, transportation, and erection of Mechanically Stabilized Earth (MSE) retaining wall system of the required type, including miscellaneous items necessary for a complete installation.

The MSE retaining walls shall consist of reinforcing strips or reinforcing mesh earth wall systems utilizing architectural precast concrete facing panels supported on cast-in-place concrete leveling pads. All reinforcing strips or mesh material shall consist of galvanized steel. The wall structures shall be dimensioned to achieve the design criteria shown on the plans and specified herein.

The MSE retaining walls shall be constructed in accordance with these specifications and in conformity with the lines, grades, design criteria, and dimensions shown on the plans or established by the Geotechnical Engineer.

636.02 Quality Assurance The MSE retaining wall system shall be one of the approved wall systems noted in the Contract Documents. Alternate systems will not be considered. Value engineering is not applicable to the work of this Item.

All necessary materials, except backfill and cast in-place concrete shall be obtained from the approved system designer.

Mechanically Stabilized Earth (MSE) retaining walls shall be designed and